Amendments to the Claims:

All amendments and cancellations to the claims are made without prejudice or disclaimer. This listing of claims replaces all prior versions and listings of claims in the application:

1. (original) An isolated transcription factor that comprises at least one zinc finger domain, wherein presence of the transcription factor in a cell can alter the differentiation state of the cell.

2. (original) The transcription factor of claim 1 wherein the cell is a vertebrate cell, and presence of the transcription factor in the cell can induce a neuronal phenotype in the cell.

3. (original) The transcription factor of claim 2 wherein the cell is a vertebrate cell, and presence of the transcription factor in the cell can induce neurite extension in the cell.

4. (previously presented) The transcription factor of claim 2 wherein the DNA contacting residues of the zinc finger domain at positions -1, 2, 3, and 6 of the domain correspond to a motif selected from the group consisting of: QSNR, QSNK, and CSNR.

5. (previously presented) The transcription factor of claim 2 wherein the transcription factor further comprises a second and third zinc finger domain, and the DNA contacting residues of the first, second, and third domains at positions -1, 2, 3, and 6 of each domain respectively correspond to the motifs: QSNR, QSNK, and CSNR.

6. (original) The transcription factor of claim 5 wherein the transcription factor comprises the amino acid sequence of the zinc finger array in SEQ ID NO:2.

7. (original) The transcription factor of claim 1 wherein the cell is a vertebrate cell, and presence of the transcription factor in the cell can induce expression of an osteoblast marker in the cell.

8. (original) The transcription factor of claim 7 wherein the osteoblast marker is alkaline phosphatase.

9. (original) The transcription factor of claim 7 wherein the cell is a myoblast cell line.

10. (previously presented) The transcription factor of claim 7 wherein the DNA contacting residues of the zinc finger domain at positions -1, 2, 3, and 6 of the domain correspond to a motif selected from the group consisting of: RDKR, QTHR, VSTR, and RDKR.

11. (previously presented) The transcription factor of claim 7 wherein the transcription factor further comprises a second and third zinc finger domain, and the DNA contacting residues of the first, second, and third domains at positions -1, 2, 3, and 6 of each domain respectively correspond to (i) the motifs: RDKR, QTHR, and VSTR or (ii) the motifs: QTHR, VSTR, and RDKR.

12. (original) The transcription factor of claim 11 wherein the transcription factor comprises the amino acid sequence of the zinc finger array in SEQ ID NO:4.

13. (original) A nucleic acid that encodes the transcription factor of claim 1.

14. (original) A cell that contains the transcription factor of claim 1.

15. (currently amended) A method of altering the differentiation state of a cell, the method comprising:

expressing a nucleic acid that comprises a sequence encoding the ~~protein~~ transcription factor of claim **[[1]] 2** in the cell; and

maintaining the cell under conditions that allow the ~~protein~~ transcription factor to alter the differentiated state of the cell.

16. (currently amended) A method of altering the differentiation state of a vertebrate cell, the method comprising:

contacting the ~~protein~~ transcription factor of claim **[[1]] 2** to the cell; and

maintaining the cell under conditions that allow the ~~protein~~ transcription factor to alter the differentiated state of the cell.

17. (currently amended) A method of altering the differentiation state of a cell in a subject, the method comprising:

administering the ~~protein~~ transcription factor of claim **[[1]] 2** or a nucleic acid that comprises a sequence encoding the ~~protein~~ transcription factor to a subject in an amount effective to alter the differentiation state of at least one cell in the subject.

18. (currently amended) A method of inducing neurite formation in a vertebrate cell, the method comprising:

providing a vertebrate cell that contains a nucleic acid that comprises a sequence encoding ~~an artificial~~ a transcription factor according to claim 2 ~~comprising three zinc finger domains~~, wherein expression of the ~~artificial~~ transcription factor induces a neuronal phenotype in the vertebrate cell; and

maintaining the vertebrate cell under conditions in which the ~~artificial~~ transcription factor is produced and neurite formation is induced.

19. (previously presented) The method of claim 18 wherein the DNA contacting residues of the first, second, and third domains at positions -1, 2, 3, and 6 of each domain respectively correspond to the motifs: QSNR, QSNK, and CSNR.

20. (original) A method of inducing oosteogenesis in a vertebrate cell, the method comprising:

providing a vertebrate cell that contains a nucleic acid that comprises a sequence encoding an artificial transcription factor comprising three zinc finger domains, wherein expression of the artificial transcription factor induces oosteogenesis in the cell; and

maintaining the vertebrate cell under conditions in which the artificial transcription factor is produced and oosteogenesis is induced.

21. (previously presented) The method of claim 18 wherein the DNA contacting residues of the first, second, and third domains at positions -1, 2, 3, and 6 of each domain respectively correspond to (i) the motifs: RDKR, QTHR, and VSTR or (ii) the motifs: QTHR, VSTR, and RDKR.

22. (new) The transcription factor of claim 2 wherein the zinc finger domains are domains from different naturally occurring proteins.

23. (new) The transcription factor of claim 22 wherein the zinc finger domains are domains from different naturally occurring human proteins.

24. (new) The transcription factor of claim 3 wherein the cell is a mouse neuroblastoma cell.

25. (new) The transcription factor of claim 2 that further comprises an activation domain.

26. (new) The transcription factor of claim 5 that further comprises an activation domain.

27. (new) The transcription factor of claim 6 that further comprises an activation domain.

28. (new) A nucleic acid that encodes the transcription factor of claim 2.

29. (new) A nucleic acid that encodes the transcription factor of claim 5.

30. (new) A cell that contains the transcription factor of claim 2.

31. (new) A cell that contains the transcription factor of claim 5.

32. (new) A method of inducing neurite formation in a vertebrate cell, the method comprising:

providing a vertebrate cell that contains a nucleic acid that comprises a sequence encoding a transcription factor according to claim 5, wherein expression of the transcription factor induces a neuronal phenotype in the vertebrate cell; and

maintaining the vertebrate cell under conditions in which the transcription factor is produced and neurite formation is induced.

33. (new) A method of inducing neurite formation in a vertebrate cell, the method comprising:

providing a vertebrate cell that contains a nucleic acid that comprises a sequence encoding a transcription factor according to claim 6, wherein expression of the transcription factor induces a neuronal phenotype in the vertebrate cell; and

maintaining the vertebrate cell under conditions in which the transcription factor is produced and neurite formation is induced.

34. (new) A method of altering the differentiation state of a vertebrate cell, the method comprising:

providing a transcription factor according to claim 5 to the vertebrate cell; and

maintaining the cell under conditions that allow the transcription factor to alter the differentiated state of the cell.

35. (new) A method of altering the differentiation state of a vertebrate cell, the method comprising:

providing a transcription factor according to claim 6 to the vertebrate cell; and

maintaining the cell under conditions that allow the transcription factor to alter the differentiated state of the cell.